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A NEW SUBSPECIES OF *CALLOPHRYS*  
(*CALLOPHRYS*) *DUMETORUM* FROM  
WASHINGTON AND OREGON  
(Lycaenidae)

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*CALLOPHRYS* (*CALLOPHRYS* *DUMETORUM* Bdv., along with other members of this subgenus, is characterized by the green color and the presence (or absence) and arrangement of white maculations on the ventral surfaces of the wings. More than 500 specimens examined by the author indicate that this species ranges from British Columbia to Baja California Norte. The southernmost extension of this range, Los Angeles and San Diego counties in California, and Baja California is supposedly inhabited by *C. dumetorum perplexa* Barnes & Benjamin. Current work on this subgenus by the author (in press under another title), however, suggests that this subspecies is consubspecific with typical *C. dumetorum* which occurs as far north as southern Oregon. Unfortunately, problems exist concerning the identification and classification of members composing the subgenus *Callophrys* in that scale color on the ventral surfaces varies from one population to another within a single subspecies. Life histories of several populations of *C. dumetorum* were examined to determine whether those populations in the Pacific Northwest discussed by Clench (1963) are biologically distinct or in fact variant populations of the typical form.

The biology of one population of typical *Callophrys dumetorum* studied by the author at Antioch, Contra Costa County, California in April, 1967 was observed on a common leguminous shrub, *Lotus scoparius*. This plant, common throughout the Coast Ranges of California, is a known foodplant of this species in southern California and females are known to oviposit on *Eriogonum fasciculatum foliolosum* in the deserts (Coolidge, 1924).



Fig. 1 — Immature stages of *Callophrys dumetorum* (Bdv.) — mature larvae, prepupa and pupa (V-18-1967) from *Lotus scoparius* Ottley. (Brannan Island State Park, Sacramento County, California). (Photo courtesy of P. E. Turner, Jr.).

Fig. 2 — Mature, fourth instar larvae of *Callophrys dumetorum oregonensis* Gorelick on *Lotus crassifolius*. (Benth.) Green. (1964) (Falls City-Valsetz Road area, Polk County, Oregon). (Photo courtesy of D. V. McCorkle).

In Washington and Oregon, available hostplant species differ considerably. Newcomer (1965) lists *Eriogonum heracleoides*, *E. compositum* and *E. elatum* as hostplants for *C. dumetorum*, while at Satus Pass, Yakima County, Washington, Dave McCorkle (in correspondence - May, 1967) indicated that *C. dumetorum* oviposits on *Lotus nevadensis*. According to McCorkle (1965), the Polk County (Oregon) population feeds on *Lotus crassifolius*, a common legume of the northern Coast Ranges. In addition, it is interesting to note that specimens examined from Benton County (Oregon) resemble typical *C. dumetorum* found in California whereas several Polk and Yamhill County (Oregon) populations have a phenotype similar to that of the Satus Pass population. Although all of the plant species mentioned above occur in California, they have never been recorded as hostplants for *C. dumetorum* there.

Flight periods as given by Newcomer (1964) for Yakima County, Washington show that the peak flight is in May, at least one month later than the Antioch (California) population as observed by the present author, with many southern California populations often seen as early as February.

A comparison of the larvae from the Antioch population of *C. dumetorum* and a Polk County (Oregon) population indicate that they differ considerably in color and substrate (see photos 1 and 2). On the basis of these life history differences and several adult morphological details distinguishable from over 300 examined specimens of typical *C. dumetorum* from all over California, a name was given to those Washington and northern Oregon populations in the northern Coast Ranges.

### ***Callophrys dumetorum oregonensis* Gorelick**

ssp. nov.

**HOLOTYPE MALE:** Costa of forewing 11 mm. from base to apex; outer margin of forewing to  $CU_2$  and slightly indented at  $A_2$  margin of hindwing with shallow crenations, very weakly between  $Cu_1$  and  $Cu_2$ , more pronounced between  $CU_2$  and  $A_2$  as in the typical form; white annuli of antennae 15 (with an incomplete 16th) as seen laterally; palpi dark above, with intermittent white scaling below; facial hairs erect as in typical form; body dark above, pale below; legs with both gray and white scales, appearing annulated along tarsi.

Dorsal surface of forewing a uniform gray rather than gray brown seen in typical form; veins concolorous; stigma light, greatly contrasting with wing; fringes of forewings and hindwings gray basally, becoming white apically.

Ventral surface with light green or yellow green scales reaching posteriorly to  $Cu_2$ ; costa of forewing brown; fringes as on dorsal surface.

Hindwings with green scales present over entire surface; macular band present as two white spots with no apparent inner black scales as soon in many of the paratype specimens; first macule present in cell Sc, the second in cell  $Cu_2$ ; fringes as on forewings.

ALLOTYPE FEMALE: Differing from holotype male as follows:

White antennal annuli 17; dorsal surface uniform golden brown; macular band on forewings present as two extremely faint spots in  $M_3$  and  $Cu_1$  cells, totally absent on hindwings.

Of a total of 55 paratypes examined, nearly all were considerably smaller than the nominate subspecies; the costa of the forewings in the latter is at least 13 mm. in length. The males are gray, with little or no trace of brown, whereas females are golden brown, often with gray scales present along the margins of both the forewings and hindwings. The fringes are always with mixed dark and light scales as seen in typical *C. dumetorum*. The green on the undersides of both sexes varies from light green to grass green, most appearing much paler than the California populations. The maculations on the hindwing undersides, also quite variable in this subspecies, are present as several separated faint spots, three or four closely connected bars, or an incomplete macular band similar to that seen in *C. sheridani* and *C. viridis* specimens. Most specimens examined show the invasion of scales posteriorly to the  $Cu_2$  vein of the forewing as mentioned earlier. Earlier descriptions of *Callophrys* (s. str.) species used the term "fuscous" to define the brown scale shade present; this term has not been used here in order to render a more concise description.

TYPE LOCALITY: Kusshi Creek, 2200', Yakima County, Washington.

TYPE MATERIALS: Thirty males and twenty-seven females as follows:

WASHINGTON. *Klickitat Co.*: Satus Pass, 3000' to summit, ♂, V-4-55 (D. L. Bauer) ♂, ♀, V-18-63, 2 ♂, V-24-63, ♀, VI-18-63, 2 ♀, V-26-64 (all E. J. Newcomer), ♂, 2 ♀, VI-8-63 (D. V. McCorkle). *Yakima Co.*: 3 mi. E. of Fort Simcoe, 3 ♂, V-8-64, ♂, ♀, V-11-64, 4 ♀, V-19-64 (all E. J. Newcomer); Kusshi Creek, 2200', 3 ♂, 2 ♀, V-24-63, ♂, ♀, V-13-64, 2 ♂, V-23-64, ♂, V-21-65, ♂, V-9-66 (all E. J. Newcomer), ♂, V-20-62 (R. E. Woodley). *Mason Co.*: Shelton, ♂, ♀, V-23-57, 3 ♂, 2 ♀, V-2-58 (all D. L. Bauer); Stimson Creek, ♂, IV-17-49, ♂, V-7-49 (E. C. Johnston). *Chelan Co.*: Sand Creek, 2 ♀, V-29-57 (D. L. Bauer). *Okanogan Co.*: Black Canyon, ♂, V-4-47 (E. C. Johnston). OREGON. *Clackamas Co.*: near Big Eddy, 960', ♀, V-19-58 (no collector). *Polk Co.*: 4 mi. W. of Falls City, 1500', ♂, V-30-64 (D. V. McCorkle); Falls City-Valsetz Road area, ♂, 3 ♀, V-26-67 (D. V. McCorkle). *Wasco Co.*: 2 mi. SW of Rowena, 525', ♂, VI-6-64 (E. & S. Perkins); 15 mi. SW of the Dalles, 2600', ♂, VI-16-62 (E. & S. Perkins); 7.5 mi. E. of Bear Springs, Hwy. 52 at 3000', ♀, VI-10-56 (O. E. Sette). *Yamhill Co.*: Baker Creek Valley, 300', ♂, ♀, VI-8-30, ♀, VI-27-30 (K. M. Fender). IDAHO. *Adams Co.*: near mouth of Wildhorse River, Wildhorse, ♀, V-12-59 (S. G. Jewett, Jr.).

The type material examined has been distributed as follows: Holotype male and allotype female in the collections of the California Academy of Sciences, San Francisco; two male paratypes in the collection of the California Insect Survey, University of California, Berkeley; one male paratype and one female paratype in the collection of the Los Angeles County Museum; one male paratype in the collection of the Nevada State Museum in Carson City; one male paratype in the collections of the U. S. National Museum, Washington, D. C.; the remaining paratypes are currently being retained in the collections of S. J. Jewett, Jr., D. L. Bauer, and the author.

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## LITERATURE CITED

- CLENCH, H., 1963. *Callophrys* (Lycaenidae) from the Pacific Northwest. *Jour. Res. Lepid.* 2(2) : 151-160.
- COOLIDGE, K. R., 1924. Life history studies of some California Rhopalocera (Lepidoptera). "The life history of *Callophrys dumetorum* Boisduval". *Trans. Am. Ent. Soc.* 50(4) : 329-335.
- McCORKLE, D. V., 1965. Contributor in: News of the lepidopterists' society "Annual summary". No. 3, page 5.
- NEWCOMER, E. J., 1964. Butterflies of Yakima County, Washington. "*Callophrys dumetorum*, No. 68". *Jour. Lepid. Soc.* 18(4) : 225.
- NEWCOMER, E. J., 1965. Contributor in: News of the lepidopterists' society. "Annual summary". No. 3, page 4.